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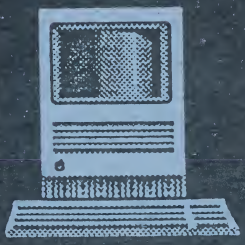

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Meeting Information

The next meeting of the Wellington Apple Users Group will be on :

Thursday, 28 June, 1990

at

St Marys College

starting at

7pm.

The doors will be open at 6.30 pm to let people get together and the meeting itself will begin at 7pm.

For the Apple // people, we are holding:

LOGO

An introduction to the LOGO Language (Bring your Turtle!)

For the Mac, we are holding:

Desktop Publishing with Pagemaker 4

Stephen Newman from Renaissance Software will be demonstrating Pagemaker 4 along with other goodies from the Aldus stable. See you there!

The Doctor is In !

At all meetings we run help clinics for major machines and software.

These clinics are run by nominated "experts" who will be announced each evening by the Meeting Co-ordinator. The idea is that you can ask the "Doctors" about any problems (hardware, software, interfacing etc) you may be having. If the "Doctor" can't cure your problem he will put you in touch with a specialist for further diagnosis and comprehensive treatment.

Apple IIs and the Outside World

Part 3: Changing the Outside World.

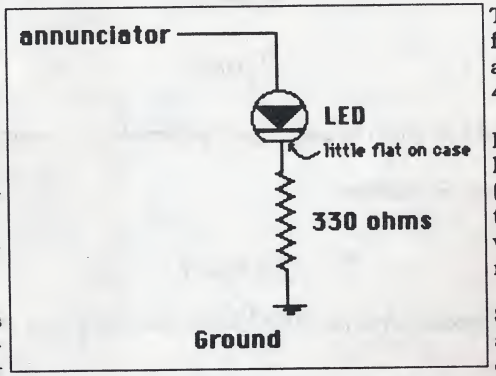
by Alastair Thomson

In the first two episodes of this enthralling saga we looked at two ways of getting information from the outside world into the Apple, and making the computer respond appropriately. Now it is the turn of the Apple to send information to the real world and perhaps modifying it.

The annunciators are used to send out information. What is an annunciator?

It is a connection which can have a high or a low voltage on it. You decide which, by programming the computer.

Each annunciator is controlled by two memory locations. The first memory location turns the annunciator off, the second turns it on. **On** means that a voltage of about 5 Volts appears on the annunciators pin in the game I/O socket. The annunciator is high, or set. **Off** means the pin is grounded - (at 0 Volts, low, reset). PEEK(49240) turns annunciator 0 off, PEEK(49241) turns it on.



The memory locations for the other three annunciators are 49242 to 49247.

If you connect a little light emitting diode (LED) to an annunciator as shown, the diode will light up if the annunciator is on.

Since there are four annunciators you could connect up four LEDs and have them flashing in order, or two at a time, or randomly or however you like. Let's do it.

Needed:	A piece of stripboard, 0.1 inch hole spacing, 10 x 10 holes
	Four 5mm LEDs (red, green, or amber or a mixture)
	Four 330 ohm resistors
	1 metre length of coloured ribbon cable (see article 1)
	16-pin DIL plug
Approximate Cost:	less than $10

Construction: A 16-pin dual-in-line (DIL) plug is needed to plug into the Game I/O socket mentioned in the first article. The pin-outs are also given in the first article.

• Strip off five wires from the ribbon cable (if you can include black in the five, so much the better). Solder four of the wires to pins 12, 13, 14, and 15 of the DIL plug. Solder the black wire to pin 8. The plug has a little nick or chamfer to indicate pin 1. See pin numbers in Part 1 (April 1990) of the series.

Number the tracks on the stripboard 1 to 10 as shown in the diagram. Follow the instructions.

Solder the four wires from the annunciators to holes 1a, 4a, 7a, and 10a respectively.

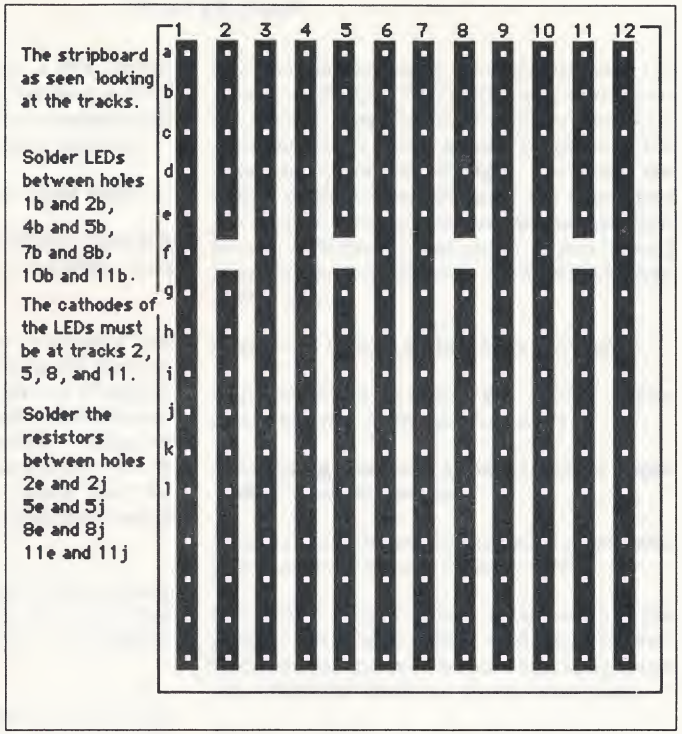
(Bare a little of the end of the wire, poke it through the hole so that the bare portion that sticks out can be soldered to the copper track.)

Cut the tracks at holes 2f, 5f, 8f, and 11f.

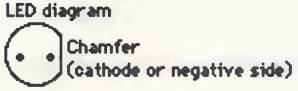
(Hold a 6mm electric drill bit on the hole and rotate it gently. The sharp edges of the drill will cut away the copper track around the hole.)

Join tracks 2, 5, 8, and 11 with wires soldered between 2k and 5k, 5l and 8l, 8k and 11k.

Solder the black wire (ground or 0 volts) to 2l.


The stripboard as seen looking at the tracks.
Solder LEDs between holes 1b and 2b, 4b and 5b, 7b and 8b, 10b and 11b.
The cathodes of the LEDs must be at tracks 2, 5, 8, and 11.
Solder the resistors between holes 2e and 2j 5e and 5j 8e and 8j 11e and 11j
1 2 3 4 5 6 7 8 9 10 11 12
a b c d e f g h i j k l

LED diagram



After soldering is completed, look carefully for any solder bridges between tracks. If you find any, remove them!

Check for continuity and short circuits with an ohmmeter if you have one.

When all is complete and checked, plug the 16-pin DIL plug into the Game I/O socket - the right way around. Turn the computer on. *If the computer fails to boot and the power supply makes a clicking noise, turn off immediately, and remove the 16-pin plug from the games socket. You've made a wiring mistake. Do not run the computer until it is rectified.*

Type in and run this program.

```
10      FOR N = 49247 TO 49240
        STEP -1

15      FOR A = 1 TO 100 : NEXT A
        : REM a delay loop to
        slow the action down a bit

20      POKE N , 0

30      NEXT N

40      GOTO 10
```

The LEDs should blink on and off sequentially. If this does not happen with a particular LED then check its circuit. Try programming the computer to turn the LEDs on and off at random, or for differing time intervals. Have fun!

ImageWriter II

Some Tips on Paper Feeding

by David Empson

The ImageWriter II has quite a few useful features built in that you may not be aware of. I had my ImageWriter II for almost a whole year before I discovered some of these features.

1.Mixing tractor and friction feed paper

Did you know that the ImageWriter II doesn't rotate the "tractors" while it is in friction-feed mode?

This feature means that if you normally use tractor-feed paper, but occasionally want to use good-quality individual sheets of paper, you don't actually need to wind the tractor-feed paper right out of the printer. It must be wound back far enough so that it doesn't block the path of the friction-feed paper, and the printer MUST be set to friction feed while using individual sheets.

The tractor-feed paper should still be held by the tractor mechanism, but the top of the first sheet should be no further than 1 or 2 centimetres past the tractors.

When you have finished with the individual paper, wind it out of the printer, and set it back to tractor mode again. Here's where the second trick comes in...

2.Loading the first sheet of paper

You're just about to load a sheet of individual paper, or put the tractor-feed paper in again? Well, try this:

For tractor-feed paper, make sure that the paper is securely held by the tractors, and that there isn't too much slack in the paper (i.e. the tractors are far enough apart). If you now press the FORM FEED button, the printer will advance the paper until the first line of the first sheet is lined up with the print head, all ready to be printed on! You don't need to manually wind the paper around, or worry about where the top-of-form position is - this sets it up automatically.

For friction-feed paper, you should have the printer in FRICTION FEED mode and insert the sheet of paper behind the platen (line it up with the paper guide icon). Make sure the paper is reasonably straight. Pressing the FORM FEED button will load the paper into the correct position for printing on the first line, as with tractor-feed paper. If you haven't lined the paper up properly, it might be crooked at this point.

If so, wind it back by hand and try again.

Don't forget to re-select the printer before trying to print from the computer!

3.Avoiding waste of a sheet of tractor paper after each document

After you've finished printing your document, you want to get it out of the printer.

Gee, this is easy, you say. Just de-select the printer, hit FORM FEED, and there is your document all ready to be torn off. The printer has even lined itself up for the next page.

So, what happens to the extra page that is now hanging out of the printer? Well, I suppose you'd just throw that out when the next document was printed, right?

If you don't like wasting paper, there are a few techniques you can use.

First, if you are printing several documents out at once, don't print them one at a time using FORM FEED to extract them. If you print out several documents at once, they will all be on their own pages, and you won't have wasted a blank page for each document.

Second, after feeding the last document out and tearing it off, you can wind the last sheet of paper back again (by hand). Lining it up is a little difficult, but if you wind it back PAST the print head, and off the platen (but leave it on the tractors), you can hit FORM FEED to load the paper again!

In fact, you don't even need to use FORM FEED to get the document out of the printer. If you hold down the LINE FEED button long enough, the perforation will be visible, and you will have less distance to wind the paper back again.

I have found that thirteen line feeds is sufficient to get the perforation past the printer's cover (for an ImageWriter II - other printers may need more or less).

4.Avoiding paper curl

You probably know by now that leaving a sheet of tractor paper in the printer after using it will leave a curl in it, rendering it unsuitable for most purposes. This curl can be avoided if you wind the paper back out of the printer when you have finished printing. In fact, if you wind it back off the platen, but leave it on the tractors, it is all ready for you to come back the next day and start printing after hitting FORM FEED (as in trick #2 above). This stops the paper from becoming curled.

5.Programming tricks

Any Apple II users out there who are writing their own programs to talk to ImageWriter IIs may be interested in a few rather interesting command codes:

Sending an "ESC r" sequence will cause the printer to feed BACKWARDS ("r" for "reverse") for all subsequent line feeds and form feeds.

Sending an "ESC f" sequence will restore normal FORWARDS line and form feeding.

If you want to send several line feeds to the printer at once, send a control-underline (CHR$(31) from Basic) followed by an ASCII digit specifying how many line feeds to send. This only works for up to 9 line feeds. You can actually send up to 15, using the following characters after the CHR$(31):

Character	Number of line feeds
":" (colon)	10
";" (semi-colon)	11
"<" (less-than)	12
"=" (equals)	13
">" (greater-than)	14
"?" (question-mark)	15

If you wanted to print an arbitrary number N of line feeds (from 1 to 15), you could use the following in Applesoft Basic:

```
PRINT CHR$(31); CHR$(48+N);: REM CHR$(48)
is the zero (0) digit
```

Note the semi-colon after the print statement. If you miss that out, you'll get an extra line feed.

This command works for both forwards and reverse feeding.

Here is a program that implements a "tear off" button for the ImageWriter II:

```
10 D$=CHR$(4)

20 PRINT D$;"PR#1": REM Output to the
                    printer

30 PRINT CHR$(31); CHR$(48+13);: REM Feed
                    13 lines

40 PRINT D$;"PR#0": REM Output to the
                    screen

50 PRINT "Tear off the paper and press
                any key";: GET A$: PRINT

60 PRINT D$;"PR#1": REM Output to the
                    printer

70 PRINT CHR$(27); "r";: REM "ESC r" -
                    Reverse feeding

80 PRINT CHR$(31); CHR$(48+13);: REM Feed
                    13 lines

90 PRINT CHR$(27); "f";: REM "ESC f" -
                    Forward feeding

100 PRINT D$;"PR#0": REM Output to the
                    screen
```

This will work fine from ProDOS BASIC. From DOS 3.3, you'll have to make a few minor changes:
On line 30, change the '13' to '12' and remove the last semi-colon.
On line 80, change the '13' to '14'.
On line 90, remove the last semi-colon.

These changes are necessary to get around DOS 3.3's requirement of being on a new line before accepting a DOS command (the PRINT D$;"..." commands).

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Macintosh Murmurs

by Cyril QWERTY

Portable Prices Plummet - well, ... dive a fair bit

Mid May - Apple Computer lowered the price of its Macintosh Portable computer by $1000. A Mac Portable with one floppy drive and 1 megabyte of memory will now retail at $US4799, down from $US5799. A Mac Portable with a 40-MB hard disk is now $US5499, down from $US6499.

According to Macintosh Portable marketing manager Dave Rothschild, the price cuts are Apple's response to recently announced products designed to compete in the Mac "laptop" market, including the Outbound Laptop System, the Road E Kit from MACadam Computers, and the Stealth Laptop from Colby Systems.

Although critically acclaimed, the Mac Portable has been considered too expensive by many potential buyers. Rothschild wouldn't say how many Mac Portables Apple has sold so far, or whether sales have met the company's expectations.

Rothschild wouldn't comment on future versions of the Mac Portable, or say whether Apple plans to develop a less expensive, smaller model.

Apple will now target the Portable at people looking for a "primary" personal computer, not those wanting a secondary Mac for use on the road, Rothschild explained. So far, Apple has not targeted the Portable at any specific group but has waited to see who would buy it, he said; it turns out the target market is users who want a Mac they can transport from the office to the home, said Rothschild.

When asked whether users might still consider the Portable still too expensive, Rothschild said no. As a primary home/office personal computer, it's reasonably priced, he said.

New Mac Portable Prices- $US

	Old Retail Price	New Retail Price	%
Mac Portable	$5790	$4799	-17.2
Mac Portable w/ 40-megabyte hard disk	$6499	$5499	-15.3
1-megabyte Memory Expansion Kit	$ 649	$ 499	-23.1

The obvious question now is whether this will result in price reductions on the portable here in New Zealand. We certainly hope so. Hey, Erik, time to get that memory upgrade?

Mac Murmurs

New Software Stuff - System 7 closer . Hypercard 2.0

At its annual Developers' Conference (week beginning May 7), Apple Computer distributed to independent developers a "System 7.0 development kit on CD-ROM, which includes an early version of System 7.0, technical documentation, programming tools, and sample code.

Apple will also introduce a new version of HyperCard, slated to be released this Northern summer. (That's winter to us here in New Zealand). The new version includes major improvements to the HyperCard programming environment, colour support, multiple sessions on the screen simultaneously, and other new features. *(For more information on this see article in this issue - Ed)*

VAX to MAC (and Back) !

Apple has also introduced a whole slew of new products that actually implement the Apple - DEC connection promised in the famous strategic alliance announced between Apple and DEC over a year ago. Better late than never I suppose.

Basically this means that Macintoshes and DEC products (most well known products are the DEC VAX range of mini-computers) can co-exist 'seamlessly' (shudder). This may be of interest to some members of WAUG using their Mac's in a situation where there is a VAX nearby. If so then drop me a line at the WAUG PO Box and I'll send a whole batch of info on the various products.

Sculley Speaks

May 11th — Chief executive officer John Sculley confirmed that lower-cost machines are under development at Apple Computer and emphasized the company's willingness to lower profit margins on less costly products. **WHAT?**

Sculley said he will be heading up the R&D effort at Apple for the next 24 months, squelching rumours that he would leave the company soon for personal reasons.

The Apple chief casually mentioned the existence of "QuickTime," a standard interface to control timing similar to QuickDraw's standard interface for drawing on a Mac's screen. Observers said this shows Apple's commitment to solving multimedia interface problems.

Apple's stated willingness to accept lower profit margins on its computers has developers, analysts, and reporters here speculating that the company could roll out a less expensive Macintosh by the August Mac Expo. Some say a new low-cost colour modular Mac, priced at less than $2000, will use the onboard video chip first used in the Mac IIci, as well as a 3-chip version of the SE (with FDHD) for under $1000. This rumoured machine will have just 1 slot, with a special bracket needed to configure that slot for either NuBus or Processor Direct (the bus found in the SE and Mac IIfx) operation. Both machines will use the Motorola 68030 as the CPU, according to some observers.

Sculley referred to an openness by Apple to license other company's technology and to license its own technology for others to manufacture, refueling recent speculation about a laptop that will be built in the Far East, possibly by Canon.

So what to make of that?

The low cost Mac seems for real and not before time some would say. Seems that Apple can now put the whole of a Mac SE onto 3 chips ! and if they can bang them into a low cost box (read low cost to manufacture) then they may have a real winner.

Another of my sources has it that there will be a September / October product launch that will be the death knell of the Plus and SE with two low cost Macs being introduced. This source says that one will be the real cheapy and have 1 meg RAM and the second 2 megs RAM & possibly colour, but speculates that both these machines will be 68000 based - and 8MHz 68000's at that !!

Hard to believe. Target retail price for the low end machine is thought to be $US1050. Stay tuned for more "details" as and when they become available.

Apple II Forever?

Some sources have it that there is an argument brewing inside Cupertino between the Apple II and Mac sections (Yawn, what is actually NEW about that?). This goes along the line that the Apple II people want to release a IIgs ROM 04 and O/S 6.0 (for the Apple IIgs) to speed up the machine. The Mac people are against this, so goes the rumour, as such an Apple II would offer more performance for less $ (and in colour) than the low cost Mac !! And they say it all happens in Hollywood.

Apple Deals a Better HyperCard

First Impressions - Hypercard 2.0

by Nick Baran

Apple's HyperCard program, which lets you manipulate data using the metaphor of a stack of index cards, has been a major catalyst of Apple's success in the multimedia and interactive training markets. In a smart move, Apple bundled HyperCard with every new Macintosh and sold it to existing Mac users for a nominal price. HyperCard enthusiasts and commercial programmers responded by developing HyperCard stacks for applications ranging from teaching golf techniques to toolkits for composing music to simulating the decision-making process during the Three Mile Island crisis.

But, in spite of its popularity, HyperCard has been in need of some improvements, particularly when it's used for serious software development. The current version, 1.2, allows you to work only with single stacks on the screen at one time. In version 1.2, HyperCard windows can only be the size of the small Macintosh screen (512 by 342 pixels) and there is no support for colour. HyperCard 1.2 has limited tools for designing the visual appearance of each card, and the programming language, HyperTalk, has serious limitations in using subroutines and other programming techniques.

But the new version, HyperCard 2.0, changes all that. The new software supports multiple HyperCard windows on the screen simultaneously. The size of HyperCard windows can now range from 64 by 64 up to 1280 by 1280 pixels. There are new external commands (XCMDs) for displaying colour PICT and gray-scale images, as well as for displaying data stored in "resource forks" such as icons and sounds (resource forks are a special Macintosh file type for storing graphics and sounds). In addition, all or selected groups of cards in a stack can be assigned a particular graphical background (in version 1.2, you had to devise a script that would apply a background design to multiple cards).

Version 2.0 also has new tools for creating graphical designs and visual effects on cards. There is a custom palette builder for designing control panels and other navigational tools. Palettes are not connected to a specific card but are associated with a stack (they can also be copied to other stacks). There's also a new set of painting tools and a colour icon editor for creating custom icons.

Apple has greatly improved HyperCard's text-handling facilities, including more flexible combinations of font styles and sizes. A new HyperTalk function called clickText allows the application to perform an action depending on the word clicked on by the user (clickChunk and clickLine pick up mouse clicks on a group of words or line of text). This is essentially the concept of hypertext, allowing documents to be linked on the basis of the words selected by the user. (For example, a document on general diseases can be linked to a more specific document by clicking on the word "measles.")

HyperCard 2.0 also has powerful new report writing capabilities and better support of laser printers. You can now print individual fields (rather than the entire card) and you can attach up to 16 different report designs to a single stack (only 1 report per stack in version 1.2). There are many new customization features for report design, including page numbering and automatic date assignment, summaries, averages, and other standard database report design features. A "mark card" function allows specific cards to be marked for inclusion in the report based on conditional criteria such as the contents of a field or variable on the card. You can also use the mark card function to customize the cards shown in the stack depending on user input (for example, a geographical card stack which is designed to only display information pertinent to the residence of the user).

Hypercard

Better Development Environment

Probably the biggest improvements Apple has made are to the HyperCard development or programming environment. Version 2.0 has a new script editor that can operate in a separate window while HyperCard stacks are also on the screen (the old editor took over the whole screen), and you can easily switch back and forth between stacks and the editor. You can view multiple scripts simultaneously and cut and paste between them. A new debugger supports up to 16 breakpoints and can trace variables and perform step-by-step execution. The debugger includes message and variable "watchers," which are separate windows for tracking the contents and status of variables and messages.

HyperCard 2.0 supports the concept of "user definable inheritance," allowing messages to be passed between user-specified stacks rather than always through the home stack. Stacks can be shared by multiple applications (up to 10 stacks per application), rather than having to duplicate the stack for each application. In other words, you can develop a shared library of stacks. Stack relationships are not restricted to a hierarchical format as in previous versions of HyperCard.

Apple has greatly improved the XCMD interface. In version 1.2, external commands interrupt the main event loop and take over the machine. Version 2.0 uses runtime binding, so that HyperCard and XCMDs can run in parallel to the main event loop, allowing background processing under MultiFinder. For example, there is now an external command for specifying timed updates, so that a stack running in the background could be updated at regular intervals from a mainframe or network data source, while other applications are running.

HyperCard 2.0 has a quasi-compiler that compiles script commands at runtime, allowing faster performance than with the straight interpreter system used in version 1.2. However, although Apple calls it a compiler, the new system does not allow compiled binary data to be saved to disk. In other words, HyperCard compiles the script the first time it is initiated during a HyperCard session and stores the binary tokens in RAM until the session is terminated. Nevertheless, the technique does result in better performance.

There also new tools for building custom menus and dialog boxes. You can add and remove commands from existing menus (except from the Apple, Toolbox, and Font menus). Dialog boxes are no longer restricted to a single line and can be up to 256 characters long. A new security feature called the "can't peek" option prevents users from interrupting scripts.

The new HyperCard addresses a lot of the weaknesses and limitations of 1.2. HyperCard 2.0 requires System 6.0.5 and, like earlier versions, will be bundled with every new Mac. Existing Mac users can purchase it for $49.95. While Apple is often criticized for its high hardware prices, no one can deny that HyperCard is one of the best software bargains available

- Nick Baran is BYTE's West Coast bureau chief, based in San Francisco

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Imagewriter II 8 ☛

ProDOS BASIC doesn't have this requirement. The modified program will work in both DOS 3.3 and ProDOS, however.

When you run this program, the printer will feed the paper out far enough for you to tear off the document you have just printed. After you push a key on the computer's keyboard, the paper will be fed back into the correct position to start printing the next document.

Note: line 80 could have just sent a "form feed" character, CHR$(12), instead of multiple line feeds.

If you want to send a single line feed, use CHR$(10). The code for ESC (escape) is CHR$(27).

Sound Manager Package

Compiled by David Wilson

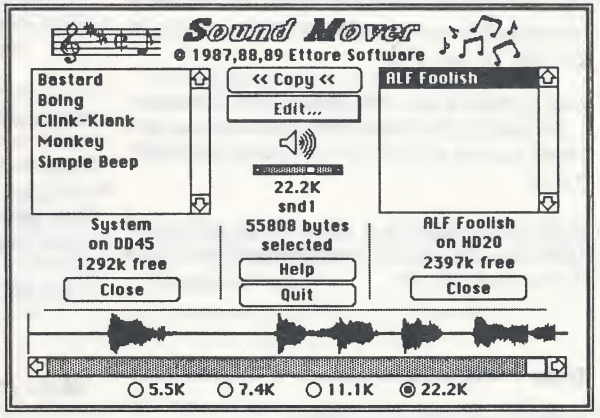
In the October 1989 (vol 6.9) issue of Capital Apple, I had an article called *Adding Sounds to Your System*. The article showed you how to use ResEdit and SoundEdit to add more beep sounds into your system. It was a messy way of doing things, but it worked.

Now there is the no mess way to put beep sounds into your system. Through the wonders of telecommunications, I downloaded a brilliant little program off our Bulletin Board.

The Sound Manager Package (SMP) is priced at $20US (inclusive of packing, handling and air mail postage to any part of the world). It comprises the following items:

- Sound Mover
- IBeep2
- StartupSndInit
- SMP Disk Manual

The programs are definitely **not** in the public domain and are Copyright ©1987-89 Ettore Software. The author does however let the programs be distributed through the "Shareware" system. The *try before you buy* scheme.



Sound Mover

As a Macintosh user, you are very likely to be familiar with the concept of moving Fonts and Desk Accessories into and out of the System file using the Font/DA Mover program. Sound Mover lets you do exactly the same to sounds.

Sound Mover was created to to work with the sound resources of type 'snd ' that appeared with the introduction of the Mac II and System 4.1. The Sound Mover program was enhanced to work with HyperCard and the Control Panel Sound CDEV that comes with System 6.0. This means that you can transfer a sound from a HyperCard stack to your System file just by using Sound Mover.

Sound Mover is used almost exactly as you would use Font/DA Mover from Apple. The major difference is that you must hold down the shift key when you want to select a group of sounds and press the command key to make multiple but disjointed selections.

Of course, just as Font/DA Mover gives you a sample of the font at the bottom of the screen, so Sound Mover shows you the waveform of the sound and (provided your volume is not set to zero) plays it for you.

Unlike F/DA Mover, Sound Mover will also let you edit the sound waveform, though admittedly not with all the sophistication of a dedicated editor such as Farallon's excellent SoundEdit.

Here are a few functions that are specific to Sound Mover:

- Changing the volume is a simple matter of using the tiny scroll bar under the loudspeaker icon, which corresponds initially to whatever volume was set with the Control Panel. On leaving Sound Mover, you'll find that the sound level was restored to its previous setting. Clicking on the icon will cause the sound in memory to be played, unless the volume is set to Silent.
- Clicking and dragging on the waveform will highlight a section of the sound which you can

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Apple II Public Domain

$6.00 per disk, or $3.00 if you provide your own disk.

We have two new disks this month:

Disk: /WAUG.36 O/S: ProDOS

This disk contains a new version of the file compression program called SHRINKIT. We included SHRINKIT 2.1 a few months back on disk #30. This is version 3.0.2. The user interface has been tidied up in places, and several bugs have been fixed. Files created by this version of SHRINKIT can NOT be un-shrunk by earlier versions. If you are currently using an older version of SHRINKIT, you should get hold of this disk.

Also included are IIPLUS.SHRINKIT (version 1.3) and IIPLUS.UNSHRINK (now version 2.0, which can un-shrink files created by SHRINKIT 3.0.2).

SHRINKIT requires a IIgs, IIc or enhanced 128k IIe. The IIPLUS programs will work on a II Plus or a 64k IIe.

Disk: /WAUG.36 (reverse) O/S: ProDOS

A few bonus programs here:

NUFX.MESSENGER: Allows you to add and view comments in NuFX files (those created by SHRINKIT).

DOGPAW: This is the text file reading program that we have been using on recent PD disks. Documentation is included.

FILE.CHOPPER: Lets you split large text files into several smaller segments, so that you can load the smaller segments into your editor (AppleWorks, for example).

INFO.CMD: An extra command to add to BASIC.SYSTEM which lets you get and set all sorts of interesting information about ProDOS files, such as the file type and auxiliary type.

Disk: /WAUG.37 O/S: ProDOS

This disk contains an Applesoft BASIC version of the OTHELLO game (also known as REVERSI). It will work on any Apple II with at least 64k of RAM.

The game is displayed on the text screen.

Disk: /WAUG.37 (reverse) O/S: ProDOS

This side of the disk contains a program which generates and prints WORD-SEARCH puzzles. It supports most common printers. The program requires a IIgs, IIc or enhanced 64k IIe, though it will probably work on an un-enhanced IIe (it uses "mouse-text" characters).

3.5" Floppy Disks

Double Sided, Double Density top quality SKC disks are still only $39 a box.

Modem for Loan

Our special "free" modem offer is going like hotcakes. There's now only a one month waiting list, so be quick or you'll never get a chance to try out BBSing without having to buy your own modem.

Back Issues of Capital Apple

There are still some issues of Capital Apple. A complete list of the available back issus was published in the March magazine, but they're selling fast! For more information, contact the Editor.

Macintosh Public Domain

$10.00 each, or $5.00 per entry in the catalogue if you bring your own disk.

Please remember to format all disks you bring to have filled up at the meetings. This will save us a great deal of time. Thanks.

The Past Revisited...

Last month's disks were well received — as I write this, a week after the May meeting, two people have each ordered all three disks, and a number of others have ordered two of the three. Mac•Virus•2 looks set to become the most sought-after Mac PD disk in the library, with good reason now that the days of "casual computing" appear to be gone forever.

Unfortunately there were some changes made to these disks after it was too late to change the magazine. As several people have kindly pointed out to me, the discovery of the "MDEF" virus caused version 1.8 of the anti-virus program "Disinfectant" to be released to the world on May 20th. Within 24 hours the new release appeared in NZ (via multiple channels including Usenet and BIX), and it was hastily added to the Mac•Virus•2 disk in place of the advertised Disinfectant 1.7. I also added another item to the Mac•Utilities•14 disk too late to include it in the magazine.

Amended contents lists for these two disks are:

Mac•Utilities•14: Boomerang 2.0b7, FlashIt 1.2b2, Simon 1.0, SoundMover 1.52c, ResEdit 1.2, Unscrolly 1.0

Mac•Virus•2: Virus Encyclopedia, Disinfectant 1.8, Vaccine 1.0, GateKeeper 1.1, GateKeeper Aid 1.01

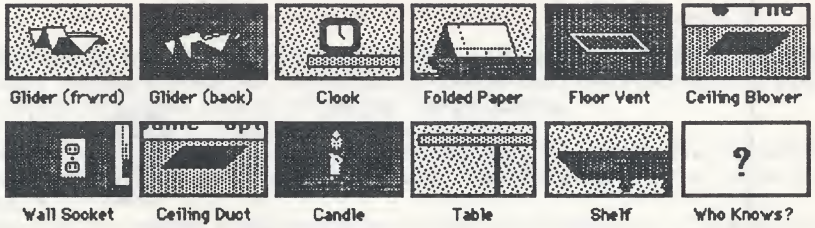
On the Lighter Side...

The main new disk this month is Mac•Games•25. This disk contains two games: Glider and Gravitation.

Glider

"Glider is a simple arcade-style game where the objective is merely to avoid the obstacles in rooms and make it through all 15 of them. It's as if you're sort of in this ridiculously long hallway and want to traverse it and escape."

Some of the obstacles you meet are illustrated below, along with the author's description:



"The first two simply show your glider when it is travelling forward across the screen and backward. The next object is a clock that, if you can touch it, will give you a bonus to your score by resetting the time it has taken you in the room (score is based in part on the time it takes you). The folded piece of paper will get you an extra glider if you can manage to touch

it and then safely get out of the room (only one extra glider per piece of paper though). The floor vent is where you get your lift. By "wiggling" your glider back and forth over the floor vents, often you can get as high as the ceiling. The ceiling blower works in the opposite fashion - it blows down upon your glider trying to force it to the floor more quickly than gravity. The wall socket is dangerous to pass in front of. I know it doesn't make sense realistically, but in fact in this game it will cost you a glider. The ceiling duct will suck up your glider and wisk [sic] you back to a previous room - stay away from them! The candle can either give you lift like a floor vent or burn you to a crisp. As you might guess, this depends on how close you pass over it. Just as landing on the floor will end your glider's flight, so will landing on either a table or a shelf. Despite the table stand and shelf brackets, you can fly below these two objects without danger of collision. The last one is the mystery category. Although many of the things you see in the rooms are merely part of the background, there are a few objects I haven't listed that you can (and must occasionally) interact with. I leave these for your discovery."

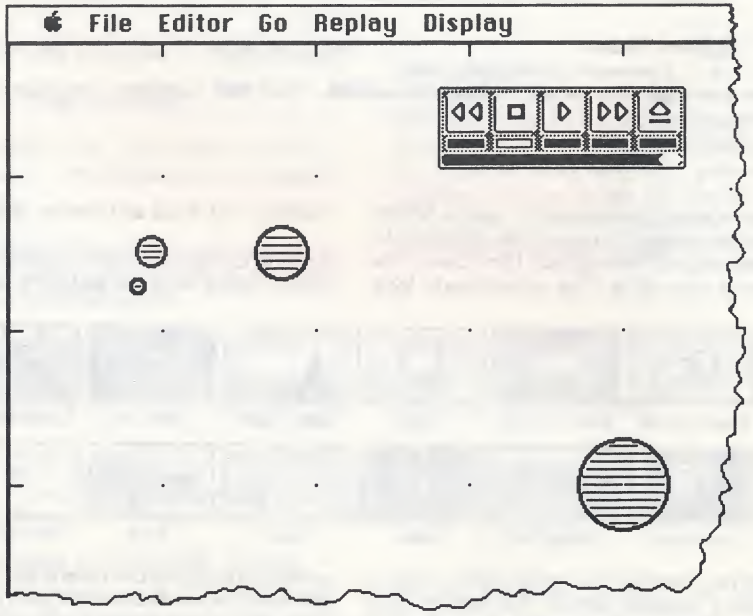
Warning: this game is addictive!

Gravitation

Actually, I'm not sure whether Gravitation is a game or not — it can certainly be treated as one, but is also a faithful simulation of planetary orbits, and as such is educational.

Gravitation gives you a two dimensional universe in which you can place up to 10 objects. For each object you specify a mass and an initial position and velocity, and then set the system going. You can specify the position and velocity either by dragging with the mouse, or by entering numbers with the keyboard.

Gravitation comes with 34 starting configurations for you to play with, and of course you can save your own ones as well. The illustration below shows part of a screen shot from the "Moon on Moon" configuration.



As you can see, there is panel with standard tape or CD type controls for running the simulation forwards and backwards, pausing it etc. You can also simply drag the slider at the bottom of the control panel to instantly go to a particular sequence — quite useful, since the screen updates continuously while you drag the slider.

You can zoom the display in and out, to get an overall view or see action close-up. The screen shot was taken at maximum magnification.

Changes in the Mac PD Library

As those of you who attended the last meeting may have noticed, the Mac PD library is now stored on SyQuest 44 MegaByte removable hard disks cartridges. These cartridges are fast and portable and no more expensive per Megabyte of storage than the floppy disks we have been using in the past. They have a number of advantages, including easier management of the library and quicker "filling-up" of purchased disks.

Another advantage is that it is now much easier to use automatic programs (such as "Find File" or "Gopher") to find out just what is in the library, and locate specific programs or files. This has now made it practical to maintain an up-to-date directory-style listing of the entire contents of the library, including **all** files and folders complete with file types, creators, sizes and creation and modification dates. Having access to this listing makes it possible to check version numbers and age of software and such things *before* you order a disk.

I have uploaded a copy of this listing to our Bulletin Board system (see back cover for details of the BBS), and have created a special disk, **Mac•PD•Listing**, which will always have the most up-to-date version of the file.

At present the listing takes up about 370 K bytes, and so almost fills a 400 K disk. Because of its size you'll need a word processor or text editor that can handle large documents. Of the programs I've tried, MS Word 4 and McSink (available on **Mac•Accessories•5**) both do it with ease (and Word 3 should have no trouble either); MacWrite 4.6 **just** copes, but is very slow (MacWrite II should be better); while Teach Text refuses to open the document at all.

If the file grows much more (because of additions to the library), or if enough people ask for it, then I will change the disk to an 800K one, in which case I would also include a copy of the file containing the same textual descriptions of the disks that you see here in the magazine or in the PD Catalogue (which we have run out of, by the way).

Mac•Games•25

This disk contains Glider 3.0 and Gravitation 4.0. Glider is an arcade-style game in which you try to pilot a paper dart through a series of rooms, taking advantage of updaughts and avoiding obstacles. Gravitation is a simulation of planetary gravity and orbits. This is a 400K disk.

Mac•PD•Listing

Contains a single file with a complete list of all files in the WAUG Mac PD library. This disk will be updated every month (keeping the same name), and its contents will also always be available on the Bulletin Board. This is currently a 400K disk.

- The whole Public Domain collection is available at meetings for you to fill 'em up right away.
- Mail order copying is preferred. If you include a SASE then FastPost return is guarantied. Otherwise, please include $2 to cover postage and packaging.
- Bring you own disks or purchase some at the meeting.
- Many of the disks in this library are labelled as 400K disks, this is to ensure compatibility with those members that do not have 800K disk drives. New disks will be 800K, unless otherwise specified.

These disks will be available at club meetings or you can order them by sending a formatted disk and/or payment to:

W.A.U.G. - Macintosh Public Domain - P O Box 6642 - Wellington

or phone Bruce Hoult at 891-334 or leave a message on WAUG Shorts 278-817

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then play by pressing any key (or clicking on the loudspeaker icon).

- To copy only the highlighted portion of the sound to another file, simply hold down the option key as you click the Copy button. A dialog will appear to allow you to change the name of the sound (if you wish) and to show you the length of the new sound.

- If you keep the option key pressed as you click Open, you'll be able to copy sounds into or out of any document or application. If you don't press option, you'll only be able to open those files that are recognized by Sound Mover (see printed manual for more details).

- Just above the information on the size of the sound in the middle of the screen, you'll see an indication of the type of 'snd ' resource you have selected. Format 1 snd's can be used as beeps but cannot be played by HyperCard. However, when copying sounds from one side to the other, Sound Mover is smart enough to detect if the destination file is a stack and if so, it will automatically convert type 1 snd's to type 2. Viceversa, when copying sounds out of a stack and into a file created with Sound Mover (or indeed into any other file that is not a stack) they will be converted back to type 1.

- Just under the volume control icon you'll see an indication of the original sampling rate: 22K effectively means that the sound takes up 22Kbytes of memory per second, 5K sounds are of lower quality, but will save you a lot of disk space!

11K appears to be the best compromise between quality and size.

- If you hold down the Command key as you click Copy, the sound will be cut in half as it gets copied to the other side by removing every other byte. This is extremely useful to save disk space and very often I cannot hear any difference between a sound taking say 60,000 bytes at 22K and the same sound after chopping it down to 30,000 bytes and playing it at 11K.

I found a lot of HyperCard stacks where sounds are needlessly sampled at 22K. After downsampling with Sound Mover, the stack can sometimes be cut by as much as 50% with no audible loss of sound quality, a considerable saving of disk space and quicker loading of the sound(s) into memory at playback time.

- A detailed description of the editing functions is beyond the scope of this document, but you should be able to use them if you're familiar with the standard way cut and paste works on the Mac. Please refer to the printed manual for details.

IBeep2

IBeep2 (pronounced I beep too) is a small program that performs a function similar to that of the Sound file found on System 4.1 and later, i.e. it lets you pick an alternative to the standard sound of the Macintosh beep. The difference is that while Sound originally only worked on a Mac II, IBeep2 was designed to work for 'the rest of us' Plus and SE users even when running under System 4.1.

Also, from version 2.3, IBeep2 is compatible with System 6.0 and will let you pick a sound to be played when a disk is ejected, another one to be uttered at shutdown time and yet a different one for restart.

StartupSndInit

This little critter is a file of type INIT which will automatically be executed at startup if you place it in your System Folder. What it does is first of all look at the volume setting: if it's zero, it does nothing at all. Otherwise, it looks inside itself for resources of type 'snd ' and plays them.

Conclusion

This is an outstanding package from Riccardo Ettore of Belgium. Get yourself a copy and if you like it, send him the shareware dollars.

If you are really keen to have specific sounds, you may also want to consider buying a Farallon MacRecorder. It's a device not much larger than the mouse and costing well under $200 from most US mail order outlets. With it, you'll be able to record any sound at all and use SoundEdit™ to shape it exactly as you wish.

What is an "Enhanced" IIe?

(and other paraphernalia)

By David Empson

Quite a lot of new software for the Apple II requires at least an "enhanced" Apple IIe (possibly with 128k of memory).

There were three major revisions of the Apple IIe. Of these, only the first is NOT enhanced. The first two revisions are identical in appearance externally [some enhanced IIe's may have a sticker over the power light (on the keyboard) with "65C02 enhanced" written on it]. The only difference involves four chips inside the computer: the CPU, the ROMs containing Applesoft Basic and the Monitor (two of them) and the ROM containing the characters displayed on the text screen. The third revision has a different keyboard layout, including a numeric keypad.

To tell if your IIe is enhanced or not, look closely at the message printed at the top of the screen when the computer is re-booted (using Control-Open Apple-Reset).

An un-enhanced IIe will display "Apple][e".

An enhanced IIe will display "Apple //e".

The new feature of the enhanced model that most new programs require is the updated CPU, which is a 65C02 rather than a 6502. There are several machine language instructions available on a 65C02 which are not supported on a 6502. Any programs written to take advantage of these instructions will not work on an Apple II with a 6502 as its processor.

The enhanced IIe also supports "mousetext" characters, which are special graphics symbols (such as Apple symbols, various lines, arrows, etc.) which are useful for drawing windows on the text screen.

The other major changes to the enhanced IIe were support for lower-case commands in Applesoft Basic and faster 80-column screen display.

Quite a lot of software also requires 80 column text and 128k of memory. To be able to run this software, you must have an "extended 80 column card" as it is usually called. This is a special circuit board that plugs in to the "auxiliary" slot on the IIe (in the middle of the computer's circuit board for IIe sold in New Zealand).

The extended 80 column card contains 64k of RAM which expands the amount of space available to programs. The IIe has 64k of RAM built in, so adding an extended 80 column card will give you 128k in total.

If you only have 64k at present, your auxiliary slot may already contain a non-extended (or "standard") 80 column card. This card supports 80 column text, but doesn't give you any more memory.

An Apple II Plus can not run most software that requires an Apple IIe, because it doesn't support the IIe's 80 column display, which a lot of programs for the IIe depend on (including AppleWorks). The II Plus is also limited to 64k of RAM (apart from slot-based RAM cards that act as a RAMdisk), can not display mousetext characters, and has no simple method of entering lower-case characters on the keyboard. You can replace the 6502 CPU in a II Plus with a 65C02, and this can allow you to run a very small proportion of software that requires an enhanced IIe. Don't expect to get very far using this method, though. It would be a better idea to get rid of the II Plus and upgrade to a IIe.

An Apple IIc is effectively an enhanced 128k Apple IIe, since it has a 65C02 for its CPU, and contains 128k of RAM.

An Apple IIgs can also run software that requires an enhanced 128k Apple IIe. The IIgs's CPU is a 65816, which can do anything a 65C02 is able to. The IIgs also contains at least 256k of RAM (at least 1 MB for the latest model), which gives it more than enough to run software that requires a 128k Apple IIe.

There are also a wide variety of Apple II clones. Some of these are Apple II Plus clones while others are Apple IIe clones. Whether or not these computers can run software that requires an enhanced 128k IIe must be determined on a trail-and-error basis. The Laser 128 (of which there are several models) is an Apple IIc clone, which will run most Apple II software that requires 128 or an enhanced IIe.

If you want to be able to run as much software as possible for your computer, you should consider upgrading your computer to a "standard" or "maximum" configuration.

If you have an Apple II Plus, you should have a "language card", giving you 64k of RAM.

For an Apple IIe owner, you should have an "enhanced" model with 128k of RAM (i.e. extended 80 column card).

An Apple IIc is fine in its standard configuration (though you might need to upgrade an older IIc if you want to put a 3.5" drive or memory card in it).

The standard configuration for an Apple IIgs is 1 MB of memory. With a full megabyte, you should be able to run nearly all Apple IIgs software (including AppleWorks GS). While a IIgs will run a lot of smaller programs in only 512k, more and more software is requiring at least 768k or a megabyte.

If you are only running ProDOS-8 programs (i.e. you are using the IIgs as a fast IIe), 512k should be sufficient. If you want to connect a IIgs to an AppleTalk/LocalTalk network, you will need at least 768k.

If you are writing software on the IIgs, using a development environment such as APW (Apple Programmers' Workshop) or Merlin 16+, one megabyte should be regarded as a minimum.

Most IIgs software (including the latest system software) requires the ROM in the IIgs to be version 01 or higher. When you turn on or reboot the IIgs, it will display "Apple IIgs" at the top of the screen. The original ROM (version 00) doesn't display anything else below this. ROM version 01 or higher will display a copyright message near the bottom of the screen, the last line of which tells you which ROM you have (the latest model of the IIgs will display "ROM Version 03").

If you try to run GS/OS (i.e. System 4.0 or later) on a IIgs with the original ROM, a message will appear saying that "GS/OS requires ROM version 01 or greater". If you see this message, GET YOUR IIGS's ROM UPGRADED BY YOUR DEALER!

A IIgs should also be equipped with the latest version of the system software. At present, this is System 5.0.2.

To upgrade an un-enhanced IIe to an enhanced one, or to get the latest system software for your IIgs, see your local Apple dealer.

It is getting difficult to obtain an extended 80 column card for an Apple IIe - unless you bought the card with the computer in the first place, you will have to hunt around to find one. Keep an eye on the classifieds in Capital Apple, or place a "wanted to buy" advertisement yourself.

Extra memory for the IIgs is available from a wide range of sources, including local dealers and mail-order firms in the U.S. (depending on which brand of memory card you want to get hold of).

NO CONTRIBUTION?
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Your Safety Any More

Exporting from Works

Help File - Works #25

by Dennis Lally

The last two articles in this column dealt with importing data into Works. Although we tend more often to bring data in and work with it, there are times when further work with the data requires a product other than Works and we need to move data out of Works in a form useful to another application.

Examples of this include taking a Works' spreadsheet to Excel in order to take advantage of features Excel has that Works doesn't, eg. formulas that deal with text or a requirement for programmable macros. Alternatively the text from Works' word processor might require the addition of footnotes or an index, so it would make sense to move one's text to a more fully featured word processor like Word. Perhaps we want a report from our database in other than column and row format, thus it would make sense to use FileMaker provided we didn't have to retype all our data. Similarly we might want to represent more than 4 categories of data on a bar graph which exceeds Works' limit. We would need to export the relevant data to a good charting program like Wingz or Chart.

Spreadsheet (copy/paste, SYLK, Text)

Of course, the simplest way of exporting data is to use the familiar copy and paste method dear to all Macintosh users. However, there can be some shortcomings with this method. The following Works spreadsheet is lists some exchange rates:

File Edit Formula Format Data Options Macro Window

F2 | =E2-B2

s/s in Works export

	A	B	C	D	E	F
1	Currency: NZ$1 =	29645.00	30030.00	30072.00	30114.00	net change
2	US $ in ¢	44	53.3	56.7	54.1	10.1
3	Sterling £ in p	41.15	35.61	37.53	35.32	-5.83
4	Canada $ in ¢	61.2	74.8	78.6	75.3	14.1
5	France ffr	4.49	3.68	3.99	3.79	-0.70
6	Hong Kong $	3.43	4.15	4.40	4.21	0.78
7	Japan ¥	114	93	96	89	-25

Note that it contains formulas in column F to compare the change in rates from the first date to the last. (For your interest, these are the true rates on those dates - quite amazing the trivia/history I collect!). Also note the use of borders in the sheet.

The following is the result of copying and pasting that sheet into Excel.

File Edit Formula Format Data Options Macro Window

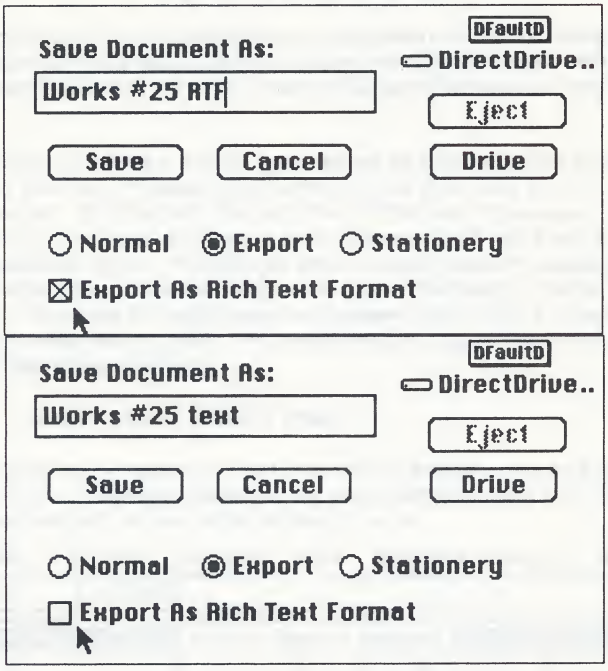
F2 | 10.1

Worksheet1

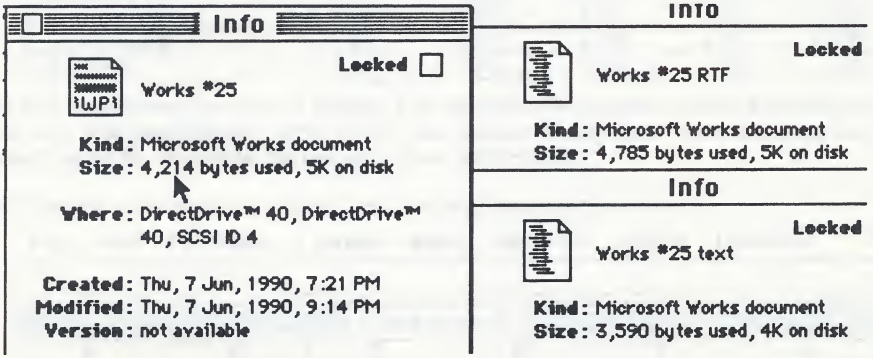
A	B	C	D	E	F
Currency: NZ$	1-Mar-85	21-Mar-86	2-May-86	13-Jun-86	net change
US $ in ¢	44	53.3	56.7	54.1	10.1
Sterling £ in p	41.15	35.61	37.53	35.32	-5.83
Canada $ in ¢	61.2	74.8	78.6	75.3	14.1
France ffr	4.49	3.68	3.99	3.79	-0.7

Word Processing (copy/paste, RTF, Text)

Apart from the obvious copy and paste technique, Works' word processor can export in two formats. The following Save or Save As... dialogue box shows the choices:



The relative differences in size between Works WP files, RTF files and Text files is shown below. The differences shown are relative and become much more obvious when the original file is larger.

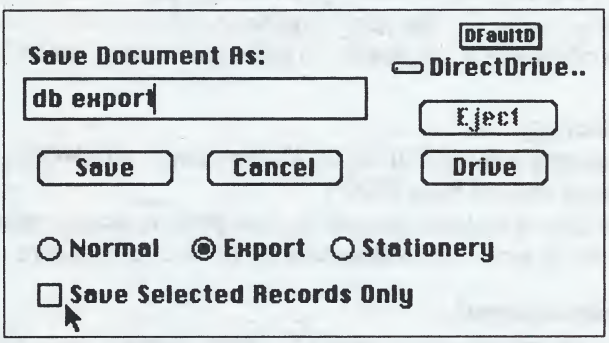


The differences in quality of information are also significant. Programs which can read RTF (Rich Text Format) files, such as Word, MacWrite II and PageMaker will be able to import text, fonts, font sizes & styles, paragraph formatting, etc. that were in the original Works document. Programs which can't must settle for plain Text format which retains only text, tabs and returns.

Text is the default export file type when the RTF box is not crossed in the Save/Save As... dialogue. Text files created from the word processor are nevertheless very useful. Apart from being the smallest file size, they are also the most universal means of data exchange and allow data to exported to virtually any word processor, desktop publisher, spreadsheet and database in operating environments as diverse as Mac/OS, PRODOS, MS-DOS, OS/2 and UNIX.

Database (Text, selected Text)

It is fitting to cover exporting data from a database after a mention of the merits of the humble text file. Works database can create export files through its Save/Save As... dialogue box:



There are, however, two subtle and very useful differences in the text files created by exporting from the database. The most obvious when viewing the export option illustrated above is that data can be exported according to selection criteria used in the database. Thus, if you don't want to export the whole database, you can make the database work for you to select the records you do want to package into a text file for external consumption.

The other difference is that the database, when creating an export text file, automatically inserts tabs after each field and a return to mark the end of each record. This allows the text file to be easily imported into practically any database or spreadsheet where it will neatly resume its former structure of fields and records or columns and rows. When imported into a word processor, the placement of tabs on the word processor's ruler or format line will restore order to the text.

Next month's article will answer the following request which appeared on the WAUG electronic bulletin board and is likely a problem shared by many:

#8948 : From Duncan Babbage to all

Re: MSW

Sec G: 11:27:00 on Sun 27 May 90.

Is there anyone out there who could help me with a problem that I am having with Microsoft Works-(not Word) When you open a new document, it always sets the margins and header and footer at 2.5cm. This is a real pain as we virtually never use this size. Is there a way of changing the default size with ResEdit or something similar?

Thanks

Macintosh memory, hard disks and upgrades

a special offer to WAUG members

from MaxByte Technologies Limited, Wellington

For a limited time, MaxByte Technologies has reduced its SIMM and hard disk prices to financial members of WAUG. MaxByte are the sole distributor of the Micron Technology range of memory products for the Macintosh, IBM, Compaq computers and the HP laser printers. We are the exclusive distributor and service centre of the Microtech range of hard drives, removables and tape back-up units in New Zealand. We distribute NewBridge accelerator and memory upgrade boards for the Macintosh. We also stock EtherNet Nubus and SCSI units. Ask about our range of books e.g. the Macintosh Bible [2nd edition] for $40+GST.

Micron Technology

- US-made low-profile 80 ns SOJ SIMM [5 yr warranty]; $140+GST.
- IIfx 1 Mb parity and 1•8 80 ns SIMM.
- IIci 128K of 25ns SRAM cache card. Increase performance by up to 40%.
- SE/30 and Mac II series 8-bit video cards for 13" and A3 monitors.

Microtech International

- external and internal 3.5" 19 ms Quantum hard drives
- internal 5.25" 320 & 650 Mb
- 150Mb tape backups
- Syquest 42Mb removables
- Sony 650 Mb opticals

MacUser [Feb. 90] gave the 40 and 80 Mb drives*"5 mice"*, beating all others. All drives have a 2 year warranty, and come with Norton's Utilities for the Macintosh and Total Recall, a backup utility.

NewBridge Accelerators

We stock NewLife 25-33 MHz 68030/82 cards for the 512, Plus, SE, SE30, with optional 13" or A4 video board. A 512Ke can be upgraded with a NewBridge NewLife 1 board to give SIMM slots for up to 4 Mb of RAM, and a SCSI port.

Prices... (exclude GST)

- 80 ns SIMM for Plus, SE, SE/30, IIcx, IIci, II at $140 per Mb;
- 40 Mb external drive [Quantum 19 ms mechanism with 64K cache] at $1400;
- Telephone to receive our complete price list.

Ordering information...

Payment with order. Memory must be fitted by an authorised technician.

MaxByte Technologies Limited, 35 Kaihuia St, PO Box 28-096, Wellington.
Telephone 04-753413; Facsimile 04-730782.

THE NOTICE BOARD

The notice board is a free service to WAUG members. Any non-commercial item can be placed on the notice board - Buy, Sell, Swap, Information wanted, etc etc. To place an item on the notice board, just drop a note to the Editor.

Wanted To Sell

Disk Drive Unit for II+, IIe etc. 5 1/4 " Full Height, Apple Compatible,Teac Mechanism. New. $165.00
Contact John McLellan, Tel 04 845 415 Business or write to PO Box 45002 Lower Hutt. Fax 04 854 413.

Macinker : Reink your own ribbons! I have 1 Computer Friends Universal Macinker complete with instructions, black ribbon ink, imagewriter inking kit, FACTORY INSTALLED 240V/50 Hz motor. This "Universal Inker" can reink many different printer ribbons, besides the imagewriters. Only $75.00. Phone Neville Chun 671-021 (res) 694-830 (bus).

Printer - Star NL-10, 9 pin, 10 inch with Apple serial interface. Using with Mac SE, 1 Year Old and on second ribbon now. Phone Jit Lim 738-821 (work) 781-806 (home)

Two modems, one 300 baud manual and the other 1200 baud Hayes-compatible.
Contact David Empson at (04)849-158 (home) or (04)856-611 (work). Make anoffer.

Wanted To Buy

Apple IIe Disk Drive Card and Memory Expansion Cardthat doesnt use auxillary slot. Pref bare but anything considered.
Contact John McLellan, Tel 04 845 415 Business or write to PO Box 45002 Lower Hutt. Fax 04 854 413.

Basic Macintosh System or something a little better. Must be realistically priced. might consider unit needing repairs if priced right.
Contact John McLellan, Tel 04 845 415 Business or write to PO Box 45002 Lower Hutt. Fax 04 854 413.

PostScript

The **Wellington Apple Users' Group** is a non-profit organisation formed in April 1984 with the following objectives:

- To exchange and disseminate information among the members concerning the computer arts and sciences.
- To publish books, newsletters, magazines and periodicals for the benefit and education of the members and the general public.
- To conduct and sponsor seminars, lectures and courses relating to the computer arts and sciences.
- To provide technical assistance to members of the group.
- To seek privileges and discounts for members.

SUBSCRIPTIONS

Students $22 : Individuals $32 : Families $40 : Corporate $200

INTENDING MEMBERS

Anyone wishing to join W.A.U.G. should contact the membership secretary.

BULLETIN BOARD

The User Group's electronic bulletin board is available 24 hours a day, 7 days a week. The number is (04) 278-817. To access it, you need a 300, 1200, 1200/75 or 2400 BAUD modem.

COMMITTEE MEMBERS		**Home Phone**	**Work Phone**
Patron	Steve Wozniak	n/a	n/a
President	Paul Messervy	768-035	797-438
Vice President	Allan Honey	638-470	847-789
Secretary	David Wilson	286-559	n/a
Treasurer	Dennis Lally	796-180	889-788 -x8876
Journal Editor	Richard Wilson	852-121	n/a
Committee:			
Group Products	Mike Eastman	787-041	787-041
Mac PD Software	Bruce Hoult	891-334	n/a
// PD Software	David Empson	849-158	856-611
Membership	Grant Collison	853-687	853-687
	Cameron Kay	828-453	n/a

Committee members prefer to be contacted before 9:00 PM
Allan Honey and Bruce Hoult are shift workers. Please do not phone them before 10:00 AM

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All correspondence should be addressed to: **The Wellington Apple Users Group, P. O. Box 6642, Wellington.**